

CLAIMS

1. A position guarantee server, comprising:

a communication section that receives from a positioning terminal
5 transmission data including encoded data of a positioning code and a carrier
wave from a positioning satellite by using an identification code of the
positioning terminal itself;

a decoding section that stores the identification code of the
positioning terminal and decodes the transmission data by using the
10 identification code;

a position computing section that computes a position of the
positioning terminal based on the positioning code decoded and the carrier
wave decoded by the decoding section; and

a certificate generating section that certifies position information
15 that is obtained by the position computing section,

wherein the certificate generating section, upon receipt of a position
guarantee request made from the positioning terminal, certifies the position
information by the position computing section.

20 2. The position guarantee server of claim 1, wherein the certificate
generating section certifies the position information together with one of
information about a device indicating position and information indicating
time.

25 3. The position guarantee server of claim 1, wherein the certificate

generating section certifies the position information together with one of computation based on correction information about position information from the positioning satellite and distribution information of the positioning satellite.

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4. The position guarantee server of claim 1, further comprising:
a receiving section that receives a position signal indicating a position of the positioning satellite; and
a signal accumulating section that stores the position signal received
10 by the receiving section,
wherein the position computing section judges the transmission data of the positioning terminal by using the position signal stored, and computes a position of the positioning terminal on determining authenticity of the transmission data from the positioning terminal.

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5. A position guarantee system, comprising:
a positioning terminal that encodes a positioning code and a carrier wave from a positioning satellite by using an identification code of the positioning terminal itself, and transmits them as transmission data; and
20 a server,
the server, including:
a decoding section that stores the identification code of the positioning terminal, receives and decodes the transmission data;
a position computing section that computes a position of the
25 positioning terminal based on the positioning code decoded and the carrier

wave decoded; and

a certificate generating section that certifies position information that is obtained by the position computation,

wherein the server, upon receipt of a position guarantee request
5 from the terminal, certifies the position information by using the position computation.

6. The position guarantee system of claim 4, wherein the positioning terminal secures against tampering a portion that receives the positioning
10 code and the carrier wave from the positioning satellite and a portion that encodes the signal received by using an identification code of the positioning terminal itself.

7. The position guarantee system of claim 5, wherein the server
15 further includes:

a receiving section that receives a position signal indicating a position of the positioning satellite; and

a signal accumulating section that stores the position signal received by the receiving section,

20 wherein the position computing section judges the transmission data from the positioning terminal by using the position signal stored, and computes a position of the positioning terminal on determining authenticity of the transmission data from the positioning terminal.

25 8. A position guarantee method, comprising the steps of:

a positioning terminal:

encoding a positioning code and a carrier wave from a positioning satellite by using an identification code of the positioning terminal itself, and transmitting them as transmission data;

5 a server:

receiving the transmission data and decoding the transmission data by using the identification code of the positioning terminal stored;

computing a position of the positioning terminal based on the positioning code decoded and the carrier wave decoded as a position

10 computing step; and

certifying position information obtained by the position computing step in response to a position guarantee request as a certificate generating step.

15 9. The position guarantee method of claim 8, wherein the position computing step includes computing the position together with position information from a device, and adding to the position information of the positioning terminal at least one of the position information and time information computed.

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10. The position guarantee method of claim 8, further comprising the step of:

removing an unwanted signal from the transmission data received as a signal removing step,

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wherein the position computing step includes computing the position

of the positioning terminal by using the transmission data decoded that has been processed through the signal removing step.

11. The position guarantee method of claim 8, wherein the position
5 computing step includes acquiring at least one of correction information for the position information from the positioning satellite, the position information of the positioning satellite, and position information of an electronic reference point; judging authenticity of the transmission data from the positioning terminal based on acquired information; and computing
10 the position of the positioning terminal on determining the authenticity of the transmission data from the positioning terminal.

12. The position guarantee method of claim 8, further comprising the steps of:
15 the server:
receiving a position signal indicating a position of the positioning satellite as a receiving step, and
storing the position signal received by the receiving step by the server as a signal accumulating step,
20 wherein the position computing step includes judging authenticity of the transmission data from the positioning terminal by using the position signal stored by the signal accumulating step, and computing the position of the positioning terminal on determining the authenticity of the transmission data from the positioning terminal.